AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A moldable implant composition for use in repairing a bone defect in a living organism, comprising:

a plurality of biocompatible synthetic non-polymeric granules, said granules constituting a major fraction of said implant composition and having an equivalent diameter of about 100 μm to about 4,000 μm;

a biocompatible polymer on at least a portion of said granules so as to form an implant mass comprising said granules and said biocompatible polymer, said biocompatible polymer comprising about 4% to about 20% of the total weight of the implant mass; and

a plasticizer in said implant mass in an amount sufficient to condition at least a portion of said biocompatible polymer so that said implant mass is initially plastically deformable into a desired shape and then hardenable upon removal of at least a portion of said plasticizer from said implant mass.

2. (Previously Presented) A moldable implant composition as defined in claim 1, wherein the granules comprise a material selected from the group consisting of biocompatible ceramics, biocompatible glasses, and combinations thereof.

3. (Previously Presented) A moldable implant composition as defined in claim 1, wherein the granules comprise a material selected from the group consisting of silicon oxide, calcium sulphate, calcium phosphate, and combinations thereof.

4. (Previously Presented) A moldable implant composition as defined in claim 1, wherein the granules comprise a material selected from the group consisting of monocalcium phosphate monohydrate, monocalcium phosphate anhydrous,

dicalcium phosphate dihydrate, dicalcium phosphate anhydrous, tetracalcium phosphate, calcium orthophosphate phosphate, calcium pyrophosphate, α-tricalcium phosphate, β-tricalcium phosphate, hydroxyapatite, carbonate hydroxyapatite, apatite, bioglass, and combination thereof.

5. (Previously Presented) A moldable implant composition as defined in claim 1, wherein the granules are biodegradable.

6. (Original) A moldable implant composition as in defined claim 1, wherein said biocompatible polymer is biodegradable.

7. (Original) A moldable implant composition as defined in claim 1, wherein said biocompatible polymer is selected from the group consisting of poly(α-hydroxyesters), poly(orthoesters), poly(ether esters), polyanhydrides, poly(phosphazenes), poly(propylene fumarates), poly(ester amides), poly(ethylene fumarates), poly(amino acids), polysaccharides, polypeptides, poly(hydroxy butyrates), poly(hydroxy valerates), polyurethanes, poly(malic acid), polylactides, polyglycolides, poly(lactide-co-glycolide), polycaprolactones, poly(glycolide-co-trimethylene carbonates), polydioxanones, and co-polymers, terpolymers thereof and blends of those polymers.

8. (Original) A moldable implant composition as defined in claim 1, wherein the biocompatible polymer comprises poly(lactide-co-glycolide).

9. (Original) A moldable implant composition as in claim 1, wherein said plasticizer is selected from the group consisting of n-methyl-2-pyrrolidone, acetone, ethyl lactate, ethyl acetate, ethyl formiate, acetyltributylcitrate, triethyl citrate, lactic acid, citric acid tetrahydrofuran, toluene, alcohol and carbon dioxide.

10. (Original) A moldable implant composition as in defined claim 1, further comprising a biologically active substance.

11. (Original) A moldable implant composition as in defined claim 1, wherein said plasticizer is extractable from said implant mass when contacted with a hardener.

12. (Original) A moldable implant composition as defined in claim 11, wherein said hardener comprises water or a body fluid.

13. (Original) A moldable implant composition as defined in claim 1, wherein said implant mass comprises a substantially solid composite matrix.

14. (Original) A moldable implant composition as defined in claim 1, wherein said implant mass comprises a porous scaffold.

15. (Original) A moldable implant composition as defined in claim 1, further comprising a membrane on a surface of said implant mass.

16. (Original) A moldable implant composition as defined in claim 1 disposed in a syringe that is capable of injecting the moldable implant composition into a bone defect.

17. - 22. (Canceled)

23. (Withdrawn) A method for repairing a defect or wound in a bone of a living organism, comprising: forming an implant mass comprising a plurality of biocompatible granules and a biocompatible polymer; exposing said implant mass to a plasticizer to condition said biocompatible polymer to yield a moldable implant mass plastically deformable; and shaping the moldable implant mass into desired shape for repairing a bone defect in a living organism.

24. (Withdrawn) A method as defined in claim 23, wherein exposing said implant mass to a plasticizer comprises immersing said implant mass in a liquid plasticizer.

25. (Withdrawn) A method as defined in claim 23, wherein exposing said implant mass to a plasticizer comprises immersing said implant mass in a gaseous plasticizer.

26. (Withdrawn) A method as defined in claim 23, wherein the moldable implant mass is contained in a syringe and shaping the moldable implant mass comprises injecting the moldable implant mass into a bone defect using the syringe.

27. (Withdrawn) A method as defined in claim 23, wherein shaping said moldable implant mass comprises placing said moldable implant mass in a bone defect in a living organism.

28. (Withdrawn) A method as defined in claim 27, wherein said moldable implant mass hardens as a result of said plasticizer being extracted from said moldable implant mass by body fluid in contact therewith.

29. (Withdrawn) A method as defined in claim 23, wherein shaping said moldable implant mass comprises: placing said moldable implant mass into a mold having a mold cavity corresponding to a shape of a bone defect in order for said implant mass to be formed into the shape of the bone defect; applying a hardening substance to said shaped implant mass to cause said shaped implant mass to harden; and removing said hardened implant mass from said mold and inserting the solidified implant mass into a bone defect in a living organism.

30. (Withdrawn) A method as defined in claim 29, wherein said hardening substance comprises water that causes hardening by extracting said plasticizer from said implant mass.

31. (Withdrawn) A method for repairing a defect or wound in a bone of a living organism, comprising: mixing a biocompatible polymer with a plasticizer to condition said biocompatible polymer; coating a plurality of biocompatible granules

with said conditioned biocompatible polymer; and placing said coated granules in a mold or bone defect to form a shaped implant mass.

32. (Withdrawn) A method as defined in claim 31, wherein said coated granules are placed in a bone defect to form said shaped implant mass.

33. (Withdrawn) A method as defined in claim 32, further comprising extracting said plasticizer from the shaped implant mass by a body fluid in contact therewith in order to cause said shaped implant mass to harden.

34. (Withdrawn) A method as defined in claim 31, wherein placing said coated granules further comprises: filling a mold with said coated granules; applying a hardening substance to said shaped implant mass to cause said shaped implant mass to harden; and removing said solidified implant mass from said mold and inserting said solidified implant mass into a bone defect.

35. (Withdrawn) A method as defined in claim 34, wherein said hardening substance comprises water, which causes hardening by extracting said plasticizer from said implant mass.

36. (Withdrawn) A method for repairing a defect or wound in a bone of a living organism, comprising: forming an implant mass comprising a plurality of biocompatible granules, a biocompatible polymer, and a plasticizer, the plasticizer being selected to give the biocompatible polymer a desired glass transition temperature; exposing said implant mass to a temperature higher than said glass transition temperature of the biocompatible polymer to yield a moldable implant mass plastically deformable; and shaping the moldable implant mass into a desired shape for repairing a bone defect in a living organism.

37. (Withdrawn) A method as defined in claim 36, wherein shaping said moldable implant mass comprises placing said moldable implant mass in a bone defect in a living organism.

38. (Withdrawn) A method as defined in claim 37, wherein said moldable implant mass hardens as a result of the temperature of said biocompatible polymer dropping below the glass transition temperature.

39. (Withdrawn) A method as defined in claim 37, wherein shaping said moldable implant mass comprises: placing said moldable implant mass into a mold having a mold cavity corresponding to a shape of a bone defect in order for said implant mass to be formed into the shape of the bone defect; cooling said implant mass to a temperature below the glass transition temperature to cause said shaped implant mass to harden; and removing said hardened implant mass from said mold and inserting the solidified implant mass into a bone defect in a living organism.

40. (Withdrawn) A method for repairing a defect or wound in a bone of a living organism, comprising: forming an implant mass comprising a plurality of biocompatible granules and a biocompatible polymer, the biocompatible polymer being selected to have a desired glass transition temperature; exposing said implant mass to a temperature higher than said glass transition temperature of the biocompatible polymer to yield a moldable implant mass plastically deformable; and placing the moldable implant mass in a bone defect of a living organism.

41. (Previously Presented) A composite implant mass comprising:

a structural component, the structural component comprising a plurality of biocompatible synthetic non-polymeric granules;

a biocompatible polymer on at least a portion of the granules; and

a plasticizer in an amount sufficient to condition at least a portion of the biocompatible polymer so that the implant mass is initially plastically deformable.

42. (Previously Presented) The implant mass of claim 41, wherein the biocompatible polymer comprises 4% to 20% of the total weight of the implant mass.

43. (Previously Presented) A composite matrix comprising:

a structural matrix, the structural matrix comprising a plurality of biocompatible synthetic non-polymeric granules bound together, at least in part, by a biocompatible polymer; and

an open porous region comprising spaces or discontinuities between adjacent granules.

44. (Previously Presented) The composite matrix of claim 43, wherein the open porous region is filled with air or gas.

45. (Previously Presented) The composite matrix of claim 43, wherein the open porous region is filled with a liquid, solid particles, or a gel.

46. (Previously Presented) The composite matrix of claim 43, wherein the biocompatible polymer comprises 4% to 20% of the total eight of the composite.